Participant and Designer Competing Goals, Resources, and Orientations for Professional Development of Faculty Teaching Mathematics to Future K-8 Teachers

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There is a documented need for professional learning opportunities to support mathematics faculty in working with prospective elementary school teachers (Ping et al., 2018). Recent efforts by the authors and others have generated frameworks for mathematics-faculty-specific, teaching-focused professional development (TPD) (Jackson et al., 2020; Schoenfeld, 2007). In particular, the *Professional Resources and Inquiry into Mathematics Education for K-8 Teacher Education (PRIMED)* project created and implemented a series of online modules for faculty new to teaching mathematics courses for future elementary school teachers. The modules constitute a 15-hour "short-course" for faculty. PRIMED designers had the role of "TPD Providers" (Yee et al., 2023) whose presence was implicit in the asynchronous short-course.

The theory of change informing the work was based on humanizing mathematics instruction for future teachers (MacArthur, 2022; Su, 2020). In the short-course setting, attention to student voices occurred at three levels: children in the future classes of pre-service teachers, the undergraduate pre-service teachers, and the faculty as learners. Providers of the short-course were the implicit instructors in the asynchronous online TPD. The framework for examining designer and faculty views used the **resources** at the disposal of each (knowledge and material resources), their **orientations** (beliefs, preferences, values, etc.), and their **goals** (which exist at multiple levels and change dynamically according to evolving events; Schoenfeld, 2023).

In this poster, we explore short-course design and revision spurred by the distinctions in goals, resources, and orientations of participating novice instructors and Provider-designers. The poster focuses on how the distinctions shaped redesign of the short-course after the initial pilot. The data were designer memos, faculty surveys, and faculty interviews to address the questions:

1. Promise: How does the short-course support faculty learning of target content?
2. Feasibility: Are module materials accessible and useful to faculty?
3. Fidelity: What are the supports needed for participation-as-intended by designers?

Previous findings from research on the use of the short-course included the students of participating faculty demonstrating greater gains in knowledge for teaching mathematics than is common in courses for pre-service K-8 teachers (Hauk et al., 2023). Also, though faculty-participants sought the resource of ready-made materials, research suggested that faculty needed more opportunities to develop the specialized content knowledge used in teaching grades K-8 in addition to knowledge needed for selecting and orchestrating use of course materials).

The work reported in the poster will contribute to the literature because, to date, studies have rarely differentiated among what constitute the professional skills needed as an instructor and professional skills as a teacher-educator, the role of teacher-educator skills in being consumers and selectors of activities (rather than producers or designers of them), and the still understudied forms of motivation behind the work of faculty new to being teacher-educators.

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